

Listing of Claims

1(currently amended). An anti-reflective coating composition ~~of 7 or less in pH~~ which comprises a fluorine-containing polymer, an acid, an amine and an aqueous solvent capable of dissolving these components, further where the coating composition has a pH ranging from about 1.0 to about 6.0.

2(original). The anti-reflective coating composition as described in claim 1, wherein the fluorine-containing polymer is a fluorine-containing polymer containing a polymer unit represented by the following general formula (I) or a fluorine-containing polymer containing both a polymer unit represented by the following general formula (I) and a polymer unit represented by the following general formula (II):



wherein R_f represents a straight or branched perfluoroalkyl group which may contain an etheric oxygen atom;



wherein X represents a fluorine atom or a chlorine atom.

3(original). The anti-reflective coating composition as described in claim 1, wherein the acid is at least one member selected from the group consisting of sulfuric acid, hydrochloric acid, nitric acid, phosphoric acid, hydrofluoric acid, hydrobromic acid, alkylsulfonic acid, alkylbenzenesulfonic acid, alkylcarboxylic acid, alkylbenzenecarboxylic acid, and those obtained by replacing all or part of the hydrogen atoms of the aforesaid alkyl group by fluorine atoms.

4(original). The anti-reflective coating composition as described in claim 1, wherein the amine is at least one member selected from the group consisting of NH_3 , $\text{N}(\text{CH}_3)_4\text{OH}$, alkanolamine, alkylamine and aromatic amine.

5(original). The anti-reflective coating composition as described in claim 1, wherein the aqueous solvent is water.

6(previously amended). A pattern-forming method which includes a step of applying the anti-reflective coating composition described on a photoresist film and, if necessary, a heating step.

7(new). The anti-reflective coating composition as described in claim 1, where the coating composition has a pH ranging from about 1.0 to about 4.0.

8(new). The anti-reflective coating composition as described in claim 1, where the coating composition has a pH ranging from about 1.6 to about 2.6.

9(new). The anti-reflective coating composition as described in claim 2, where the coating composition has a pH ranging from about 1.0 to about 6.0.

10(new). The anti-reflective coating composition as described in claim 2, where the coating composition has a pH ranging from about 1.0 to about 4.0.

11(new). The anti-reflective coating composition as described in claim 2, where the coating composition has a pH ranging from about 1.6 to about 2.6.

Serial No.: 10/519,242
Filed: December 22, 2004

Amended Table 1(A)

Table 1(A)

	Amine salt of fluorine- containing polymer	Dodecylbenzene- sulfonic acid	Thickness of resist (Å)	Reduction amount of resist film (Å)
Ex.1	3.5	0.5	5105.7	210.8
Ex.2	3.5	0.5 0.6	5110.3	223.0
Ex.3	3.5	0.5 0.7	5112.7	241.4
Ex.4	3.5	0.5 0.8	5115.5	258.6